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Epithelial implantation cyst of the cornea.

By E. TREACHER COLLINS.

CYSTS in the substance of the cornea, judging by the very few that have been recorded, would appear to be exceedingly rare. Samuelsohn* gave the clinical details of the first in 1872. It occurred without any known cause, and when punctured gave exit to a clear fluid. Alt† describes four eyes in which he found cysts in the parenchyma of the cornea; in all of these there had been a perforating wound. In two there was a lining of uveal pigment, and in two the walls were perfectly smooth.

In the last number of the 'Ophthalmic Hospital Reports'‡ I recorded and pictured two cases of what I termed epithelial implantation cysts of the cornea. In one of these the eye was lost after a penetrating wound by a shot, in the other after extraction of cataract. In both these eyes I found cystic spaces in the cornea lined by laminated epithelium. They were small and only discovered upon microscopical examination, giving rise to no clinical symptoms. In the case which I bring before you this evening the cyst, which is situated partly in the cornea and partly in the sclerotic, produced a large protuberance on the front of the globe.

The patient, a boy æt. 12, came to the Moorfields Hospital on September 24th, 1888, having run a stick into

* 'Klin. Monatsb. f. Augenheilk.,' 1872, p. 310.

† 'Arch. of Ophth. and Otol.,' vol. vi, p. 317.

‡ Vol. xii, pt. 1, pp. 42, 43.

his right eye two days previously. There was then a wound in the cornea in the centre of the lower half, with some yellow infiltration around it, some iritis, and an hypopyon. The infiltrated margin of the wound was touched with the galvano-cautery, the hypopyon evacuated, and the anterior chamber washed out with a perchloride of mercury lotion. The inflammation gradually subsided, but the iris had adhered to the seat of the wound; the tension became increased, and a tendency for the cornea to bulge at the lower part was noted.

Two iridectomies were performed with the hope of relieving the tension, one in October and one in December of the same year; neither was successful. On June 25th, 1891, a year and nine months after the receipt of injury, the eye was excised for the relief of pain. Its condition at the time was described as follows:—There is an anterior staphyloma of the lower part of the cornea and adjacent sclerotic. There is general haze of the cornea, and a leucoma in the centre of its lower half. A coloboma of the iris can be seen upwards.

After removal the greatest antero-posterior diameter of the globe measured 29·5 mm. On section a large cyst

FIG. 1.

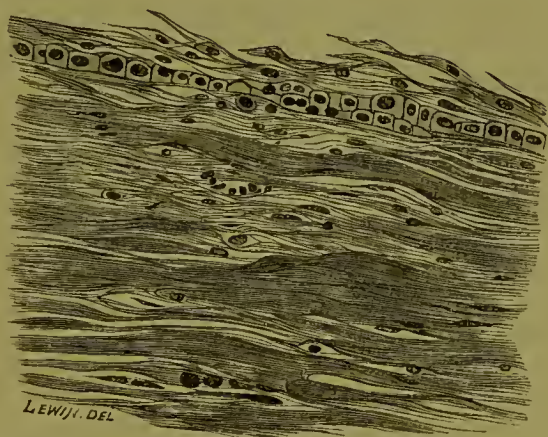


Section of globe showing position of cyst.

was found, situated partly in the cornea and partly in the sclerotic at the lower part. It measured 9·5 mm. laterally and 5 mm. antero-posteriorly. What was left of the iris was adherent to the part of the cornea which

formed the posterior wall of the cyst, also to the periphery of the cornea, blocking the angle of the anterior chamber. The lens was much flattened from before backwards. The vitreous was somewhat thin; the retina *in situ* and the optic disc deeply cupped. Microscopical examination shows the cyst to be lined by epithelial cells, several layers thick, those towards its interior being the most flattened

FIG. 2.



Microscopical section showing laminated epithelium lining cyst.

and scaly. Here and there cells are seen swollen with large globules in them, as though undergoing mucoid degeneration. There is laminated fibrous tissue in front of the cyst and behind it. There is a gap in Descemet's membrane on the posterior surface of the cornea in the region of the cyst. Here the iris is adherent, and has in its substance a second smaller cyst, also lined by laminated epithelium, which is thicker than that in the corneal cyst, and exactly resembles the surface epithelium of the cornea.

Masse* conclusively proved by experimenting on rabbits' eyes that when pieces of epithelium are implanted into the anterior chamber or into the iris, they will grow and give rise to cysts. Most of the iris cysts which follow

* Kystes, 'Tumeurs perlées et Tumeurs dermoïdes de l'Iris,' Paris, 1885.

perforating wounds are produced in this way. It is only natural to suppose that should a piece of epithelium instead of being carried into the anterior chamber or iris be lodged in the corneal wound, it would also grow and proliferate, giving rise to a cyst there. Since no epithelium exists normally in the parenchyma of the cornea, the most probable explanation of the formation of the cyst in the above case is, that it was produced by such an implantation of the surface epithelium, some of the cells afterwards undergoing mucoid degeneration in the same way as others which now line the cyst are doing, thus producing its fluid contents.

(December 10th, 1891.)

